CW#53 Composition of Functions

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what does it mean when we write
$f(x)$, $g(a)$, $n(t)$, etc?

when the functions of f, g, h, etc. are evaluated at x, a, t, etc.

A function is a "rule" or equation for which any x that can be plugged into this equation will yield exactly one y out of the equation.

ex) $y = 5x + 1$ or $f(x) = 5x + 1$

A composition of functions is the process by which an entire function is substituted into another function.

Notation: ① $f(g(x))$ Reads: ① "f of g of x" or
② $(f \circ g)(x)$ ② "f after g of x"

$\circ$ composition symbol
"f composed with g of x"

Example 1) Let $f(x) = 2x - 7$ and $g(x) = x^2 + 4$
what is the value of $f(g(2))$?

① start with the inner most function
(closest to 2)

② Substitute the value into the innermost function

$g(x) = x^2 + 4$

$g(2) = (2)^2 + 4$

$g(2) = 8$

so...
$f(g(2)) = 9$

③ Substitute the value from step 2 into the